PROJECT TITLE : PROTAGORAS

PERIOD COVERED : JANUARY - FEBRUARY 1982

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Mexican Burley strips were partially deproteinated and analysed. The resulting tobacco was cut and cigarettes were made with it and analysed.

TOBACCO EXTRACTION

Mexican Burley strips were extracted with water, an acid base and an enzyme solution. The solution of the water step and the enzyme step were mixed together and partially deproteinated. The extraction conditions and the amount of the extracted protein as a % of the original protein content are shown in the table below.

	pH	Liquid	Temp °C	Time min.	Protein Extracted %
Step I	5·7	H_2O + Acid	60	120	23
Step IIa	1·9	H_2O + Acid-Base			19·5
Step IIb	12·5		60	120	
Step III	8·5	H_2O + 0,16 mg/ml Pronase	40	240	18

The amount of protein extracted on the liquid phase was not as high as expected. The resulting tobacco was dried and stored.

PARTIAL DEPROTEINISATION OF THE LIQUID PHASE

The liquids at steps I and III were mixed together and with an inoculum of Candida utilis based on the LEAR process. The pH was set at 5·5 and the temperature at 30°. After an incubation of 12 hours, 50% of the "proteins" had been eliminated. The resulting solution was concentrated and resprayed on the cut tobacco.

CIGARETTES

Cigarettes were manufactured and analysed.

	Mexican Burley	Extracted Max. Burley	Extracted Max. Burley and re-sprayed.
TA %	0.35	0.001	0.15
N-NO_3%	0.28	0.000	0.000
N-NH_3%	0.37	0.03	0.03
Protein %	16.05	8.05	9.00
CO MS mg/tob.	19.09	19.07	19.00
CO SS mg/tob.	63.01	76.04	74.00
NO MS mg/tob.	0.36	0.03	0.03
Aldehyde mg/tob.	140.00	178.00	176.00
HCN µg/tob.	167.00	150.00	157.00

It should be noted that the HCN did not change as much as expected (Monthly Report, Schulthess-D., PROTAGORAS, December 80). Further trials will be performed to investigate this phenomenon.

GNB/jig/MARCH 3, 1982